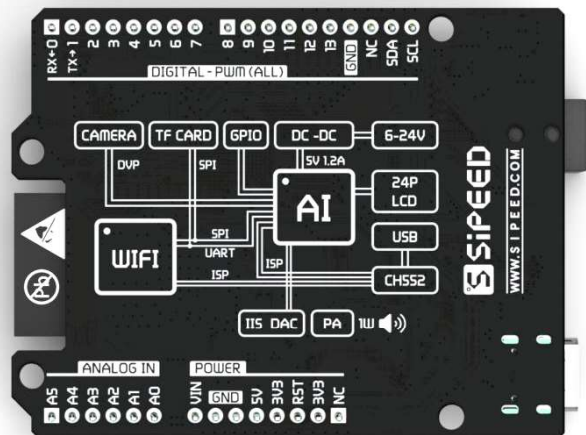
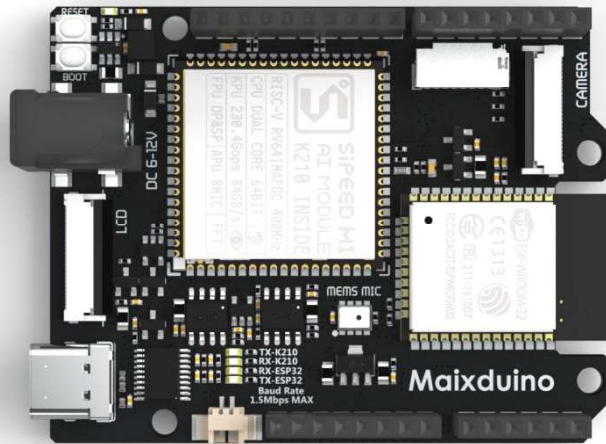


Sipeed Maixduino Specifications v1.0

Characteristic:

- CPU : RISC-V Dual Core
64bit, with FPU, 400Mhz standard
Frequency(Can be overclocked), Neural
network processor
- Connector:
Compatible with Arduino
24P LCD connector
24P Camera connector
TF card slot
Speaker connector
Compatible with Arduino interface
- Development environment:
Support Arduino IDE
- Power input:
USB or DC connector(6-12V input;5V 1.2A
output)
- Download circuit:
Just connect the USB typeC cable to
complete the download(K210 and ESP32)
- Audio Function:
MEMS microphone and 3W speaker output
- Wireless Function(Optional):
Support 2.4G 802.11.b/g/n
Support Bluetooth 4.2



Version 1.0
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Update record

V1.0	Edited on May 9, 2019 ; Original document

FEATURES OVERVIEW

Master module	Sipeed M1 AIOT module(For details, please refer to the following specification:Sipeed Maix-1 Specifications_EN V1.0.pdf)
Power input	<ol style="list-style-type: none"> 1. USB Type-C 2. DC-DC step-down circuit:support 6-12V input;Provide 5V 1.2A output
Micro SD card (TF card) slot	Support Self-elastic card holder
Onboard MEMS microphone	MSM261S4030H0 is an omnidirectional, Bottom-ported, I 2 S digital output MEMS Microphone. It has high performance and Reliability.
DVP Camera interface	24P 0.5mm FPC connector
LCD interface	Maix-LCD board (with Resistive touch screen) is directly connected to the pin header
Audio output	DAC+PA: <ol style="list-style-type: none"> 1. TM8211:16 bit dynamic range;Low harmonic distortion 2. NS4150:3W output power;Up to 90% efficiency;
ESP32 module	<ol style="list-style-type: none"> 1. Support 2.4G 802.11.b/g/n 2. 802.11 n (2.4 GHz) speeds up to 150 Mbps 3. Bluetooth v4.2 full standard, including traditional Bluetooth (BR/EDR) and Bluetooth Low Energy (BLE)

SOFTWARE FEATURES

FreeRtos & Standard SDK	Support FreeRtos and Standrad development kit.
MicroPython Support	Support MicroPython on M1
Machine vision	Machine vision based on convoluntional neural network
Machine hearing	High performance microphone array processor

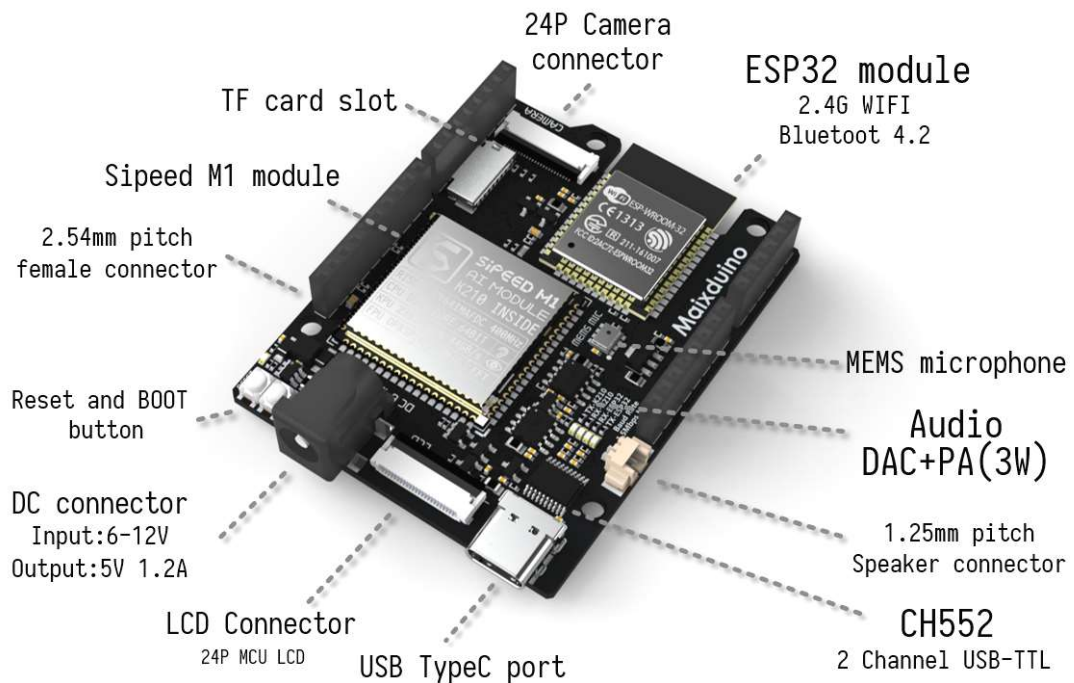
HARDWARE FEATURES

Supply voltage of external power supply	6.0V ~ 12V
Rated power of external power supply	>3W
Temperature rise	<30K
Range of working temperature	-30°C ~ 85°C

RF FEATURES

MCU : ESP32-D0WDQ6	Xtensa 32-bit MCU
Wireless Standard	802.11 b/g/n
Frequency Range	2400Mhz - 2483.5Mhz
TX Power(Conduction test)	802.11.b : +15dBm(±2dBm) 802.11.g : +10dBm(±2dBm)(54Mbps) 802.11.n : +10dBm(±2dBm)s (65Mbps)
Antenna Connector	IPEX 3.0x3.0mm
Wi-Fi mode	Station/SoftAP/SoftAP+Station

Overall description



Outlook information

Board size: 68 x 54 mm (Accurate size reference DXF)

Maixduino silk	K210 IO	ESP32 IO	Function	Remark	IO Voltage
RST	Dedicated pin		K210_RST	10K pull up	1.8V
	I00		JTAG_TCK		3.3V
	I01		JTAG_TDI		
	I02		JTAG_TMS		
13	I03		JTAG_TDO		
RX←0	I04		K210_RX		
TX→1	I05		K210_TX		
	I06	I01	ESP32_U0TX		
	I07	I03	ESP32_U0RX		
	I08	Dedicated pin	ESP32_EN		
	I09	I025	ESP32_READY		
12	I010				
11	I011				
10	I012		LED_G		
9	I013		LED_R		
8	I014		LED_B		
7	I015				
	I016		K210_BOOT	10K pull up	
	I017		LCD_Backlight	10K pull down(on)	
	I018		MIC_BCK	MEMS microphone	
	I019		MIC_WS		
	I020		MIC_DAT3		
2	I021				
3	I022				
4	I023				
5	I024				
	I025	I05	ESP32_SPI_CS		
	I026	I023	SPI0_MISO	TF card	
	I027	I018	SPI0_SCLK		
	I028	I014	SPI0_MOSI		
	I029		SPI0_CS0		
SCL	I030		I2C_SCL	4.7K pull up	
SDA	I031		I2C_SDA		
6	I032				
	I033		I2S_WS	Audio DAC	
	I034		I2S_DA		
	I035		I2S_BCK		
	I036		LCD_CS		
	I037		LCD_RST		
	I038		LCD_DC		
	I039		LCD_WR		
	I040		DVP_SDA	4.7K pull up	
	I041		DVP_SCL		
	I042		DVP_RST		
	I043		DVP_VSYNC		
	I044		DVP_PWDN		
	I045		DVP_HSYNC		
	I046		DVP_XCLK		
	I047		DVP_PCLK		
A0		I033	ADC1_CH5		
A1		I032	ADC1_CH4		
A2		I035	ADC1_CH7		
A3		I034	ADC1_CH6		
A4		I039	ADC1_CH3		
A5		I036	ADC1_CH0		

Resource	
Website	www.sipeed.com
Github	https://github.com/Lichee-Pi
BBS	http://bbs.sipeed.com
Wiki	maixpy.sipeed.com
SDK Relevant information	dl.sipeed.com/MAIX/SDK
HDK Relevant information	dl.sipeed.com/MAIX/HDK
E-mail(Technical Support and Business Cooperation)	support@sipeed.com
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